

Appl. No. 10/038,916
Amdmt. Dated August 23, 2006
Reply to Office Action of May 24, 2006

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REMARKS/ARGUMENTS

This is further to the telephone interview with the Examiner on August 3, 2006.

Claim 1 has been amended to recite further details of how the channel quality indicator is used, namely it is fed back to a transmitter where it is used for determining and applying an appropriate coding rate and modulation to the source data element sequence. Claim 17 has been cancelled.

There appears to be some confusion over the use of the term "symbol" as opposed to "bit" in Stein as they are sometimes used to mean separate things and at other times used to mean the same things. Rather than argue patentable distinction on this basis, this amendment focuses on the fact that the channel quality metric that is computed is fed back to the transmitter where it is used to determine and apply an appropriate coding rate and modulation to the source data element sequence. Neither of the two references cited by the Examiner teach this feature.

Applicant has previously argued that the correlations calculated in Stein are not channel quality indicators; whether or not they are is moot in view of the fact that they are not used as such.

The following is a summary of the method of Stein:

- recombines using each of a plurality of rate hypotheses, produces soft bit decisions;
- decodes to produce decoded bits;
- re-encodes decoded bits;
- correlates the re-encoded bits with soft bit decisions;
- based on the correlation values, picks between the rate hypothesis;
- calculate CRC for selected hypothesis;
- if CRC does not check, an erasure is indicated.

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The fact that the frame is thrown out if the CRC does not check clearly points to the fact that the metric is NOT being used to indicate quality; it is strictly being used to select between rates. Nothing is sent back to the transmitter. Rather, that which is calculated is used only at the receiver to perform blind rate detection, a completely different exercise/purpose that the purpose of the CQI as claimed.

It is noted that pending claims 11 and 14 include subject matter similar to this; the Examiner in his rejection of these claims did not comment on the limitations pertaining to the feedback of the CQI and the use of the CQI in a manner claimed. In fact, neither of the two references cited by the Examiner relate to the feeding back of CQI. This is not surprising given that neither of the two references teach a method of calculating the CQI that is suitable for this purpose.

Finally, it is noted that Stein teaches the use of the Yamamoto detector 248 to produce a quality metric. More specifically, column 9, line 45 through column 10, line 17 refer to the use of a Yamamoto quality metric, in addition to the correlation metric, to assist in the determination of the transmitted rate. The fact that Stein et al. teaches the use of a Yamamoto quality metric in the receiver teaches away from the further use of the correlation metric as a quality metric as suggested by the Examiner. The Yamamoto quality metric of Stein is not used in a manner claimed in the subject claim 1 where requiring that the quality metric be feedback to the transmitter and used to determine and apply an appropriate coding rate and modulation.

In view of the fact that the claims as amended include limitations not present in the cited references, the Examiner is respectfully requested to withdraw the 35 U.S.C. 103 rejection. Dealing with the 35 U.S.C. 112 rejections, claim 33 has been cancelled, and claim 39 has been cancelled with the subject matter of claim 39 being combined with claim 40.

The Examiner has maintained his rejection of claims 39 to 41 under 35 U.S.C. 102(e). In response to the argument section the Examiner has made the following equivalences:

a pilot = redundancy bits added to block signal constellation;

transmission parameter = input bits.

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With all due respect, while the Examiner is entitled to give claim limitations a broad interpretation, this should not be taken to give terms meanings other than their clear meaning. A "pilot" is well known in OFDM to be a transmitted symbol that usually contains known information that is used by the receiver to perform channel estimation. The redundancy bits referred to by the Examiner have nothing to do with channel estimation or pilots. As for the equation of TPS with "input bits", transmit parameter signalling is defined in the specification on page 6 to be symbols that are "used to provide control signalling channels to allow fast physical and media access control layer adaptation signalling". The Examiner has not referred to anything of this sort in the reference.

The Examiner refers to paragraphs 91 and 92 as discussing the use of pilots for channel estimates but with all due respect these paragraphs have nothing to do with pilots or performing channel estimation.

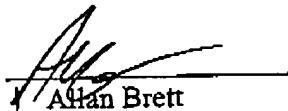
The Examiner is respectfully requested to withdraw the 35 U.S.C. 102 rejection of claims 40 and 41, and claim 39 has been cancelled rendering its rejection moot.

In view of the foregoing, early favorable consideration of this application is earnestly solicited.

Respectfully submitted,

MING JIA ET AL.

By



Allan Brett
Reg. No. 40,476
Tel.: (613) 232-2486 ext. 323

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RAB:rlid:kbc:rlid